

Remarks

Regarding Claim Rejections under 35 USC § 103

Regarding Official Notice Taken With Regard to Claims 1, 6-11, 16-21, and 23 ("Noticed Claims").

Official notice taken on the Noticed Claims should be withdrawn because it is improper, e.g.,:

- the notice taken is not capable of such instant and unquestionable demonstration as to defy dispute;
- the notice taken is not supported by citation to some reference work recognized as a standard in the pertinent art; and
- a clear and unmistakable technical line of reasoning underlying the decision to take such notice is not provided.

The notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute."¹ It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted are not capable of instant and unquestionable demonstration as being well-known.² Assertions of specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art.³ If official notice is taken, the technical line of reasoning underlying a decision to take such notice must be clear and unmistakable.⁴

¹ *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970) (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). Emphasis added.

² MPEP 2144.03. Emphasis in the original.

³ *Id.* Emphasis added.

⁴ *Id.*

First, assertions of the sort made by the examiner the technology area of the subject invention (assuring the integrity and validity of data used to evaluate financial risk or exposure⁵) are inherently unlikely to be capable of such instant and unquestionable demonstration as to defy dispute. Second, the OA does not cite a prior art reference beyond “any statistical analysis textbook.”⁶ Finally, no technical line of reasoning underlying the decision to take such notice is presented beyond “this is a standard technique that is well known.”⁷

For these reasons, the undersigned requests that each instance of official notice be withdrawn. The remarks to this point are a challenge to the implicit finding that official notice is proper in this case. The remarks are responsive in that they distinctly and specifically point out the error in taking official notice in this fashion – as required by 37 CFR 1.111(b). While the MPEP asserts:

To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner’s action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b).

such a traverse is required only where official notice was properly taken. Otherwise, an improper official notice, e.g., mere assertion, would operate as an inappropriate burden-shifting tactic.

In the event that official notice is found proper with respect to one or more claims, remarks regarding each such claim specifically pointing out errors in the action and stating why the noticed fact is not considered to be common knowledge or well-known in the art are presented in this Reply in the Remarks section relevant to that claim.

⁵ See FIELD OF THE INVENTION.

⁶ “[A]ny statistical analysis textbook” is asserted in the OA in rejecting claims 8, 9, 10, 18, 19, and 20

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Regarding Rejection of Claim 1 as unpatentable over U.S. Patent (USP) No. 4,866,634 to Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

“Reboh et al. ('634) discloses a method for detecting abnormalities in input data to a financial risk management system, the method comprising:

receiving a set of input data to a financial risk management system; (Column 4, lines 18-23)

receiving one or more historical values, each historical value representing a previous set of input data; (Column 4, lines 24-34)”

The OA goes on to assert Official Notice for the remainder of Claim 1. The references to Reboh correspond to the first paragraph of the Description of the Preferred Embodiment in Reboh.

The referenced paragraphs of Reboh, and the Reboh patent generally, describe how new input variables are propagated through embodiments comprising an expert system. Neither Reboh, nor the official notice, teaches or suggests detecting abnormalities nor accepting historical values as input as asserted by the OA. Neither Reboh alone, nor Reboh in combination with the Official Notice teaches or suggests detecting abnormalities in input data of any type.

Regarding Rejection of Claim 6 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

Reboh et al. ('634) discloses the method of claim 1,
calculating the information content of the input data; and
performing a statistical analysis of the calculated information content relative to the one or more historical values to determine the likelihood that changes to the input data are the result of one or more errors.
(Figure 1).

As written, the OA assertion is not a rejection. The OA simply restates the limitation introduced by Claim 6 without providing rationale for a rejection. It is unclear whether the “(Figure 1)” refers to Reboh.

In the event that “(Figure 1)” does refer to Reboh, the OA fails to establish a *prima facie* case of obviousness because neither Reboh Fig. 1, nor anywhere else in Reboh (nor any matter arguably included in the Official Notice), teaches or suggests calculating the information content (entropy) of the input data. Neither Reboh Fig. 1, nor anywhere else in Reboh, teaches or suggests performing statistical analysis on the calculated information content.

The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 6 for the reasons presented regarding Claim 1.

Regarding Rejection of Claim 7 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

... ‘calculating the information content of the input data is performed by calculating the Shannon entropy of the input data’ is common and well known in prior art in reference to statistical analysis.

It is not common and well known to use the Shannon entropy of the input data to detect abnormalities in the input data. The application does not claim invention of Shannon entropy. Claim 7 addresses detection of abnormalities in the input data through the use of Shannon entropy. The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities. The undersigned requests that any such reference be identified.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 7 for the reasons presented regarding Claim 1 and Claim 6.

Regarding Rejection of Claim 8 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

... this [statistical analysis performed using non-parametric resampling] is a standard technique that is well known and found in any statistical analysis textbook.

Regardless of whether the use of statistical analysis performed using non-parametric resampling is a standard technique that is well known and found in any statistical analysis textbook, its use on the entropy (information content) of an input data stream to determine the likelihood that changes to the input data are the result of errors is not known or found in any reference or combination of references. The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities, regardless of the statistical methods (e.g., non-parametric resampling) used to determine if the entropy of the input data comes from the same population as the historical entropy data.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 8 for the reasons presented regarding Claim 1 and Claim 6.

Regarding Rejection of Claim 9 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

... this [statistical analysis performed using Bayesian statistics] is a standard technique that is well known and found in any statistical analysis textbook.

Regardless of whether the use of statistical analysis performed using Bayesian statistics is a standard technique that is well known and found in any statistical analysis textbook, its use on the entropy (information content) of an input data stream to determine the likelihood that changes to the input data are the result of errors is not known or found in any reference or combination of references. The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities, regardless of the statistical methods (e.g., non-parametric resampling, Bayesian statistics) used to determine if the entropy of the input data comes from the same population as the historical entropy data.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 9 for the reasons presented regarding Claim 1 and Claim 6.

Regarding Rejection of Claim 10 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

... this [statistical analysis performed using parametric statistics] is a standard technique that is well known and found in any statistical analysis textbook.

Regardless of whether the use of statistical analysis performed using parametric statistics is a standard technique that is well known and found in any statistical analysis textbook, its use on the entropy (information content) of an input data stream to determine the likelihood that changes to the input data are the result of errors is not known or found in any reference or combination of references. The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities, regardless of the statistical methods (e.g., non-parametric resampling, Bayesian statistics, parametric statistics) used to determine if the entropy of the input data comes from the same population as the historical entropy data.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 10 for the reasons presented regarding Claim 1 and Claim 6.

Regarding Rejection of Claim 11 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

Reboh et al. ('634) discloses a method for detecting abnormalities in input data to a financial risk management system, the method comprising:

a data processing server that receives a set of input data;
(Column 4, lines 18-23)

a computer storage device for storing one or more historical values, each historical value representing a previous set of input data;
(Column 4, lines 24-34) ...

The OA goes on to assert Official Notice for the remainder of Claim 11. The references to Reboh correspond to the first paragraph of the Description of the Preferred Embodiment in Reboh.

The referenced paragraphs of Reboh, and the Reboh patent generally, describe how new input variables are propagated through embodiments comprising an expert system. Neither Reboh, nor the official notice, teaches or suggests detecting abnormalities nor accepting historical values as input. Neither Reboh alone, nor Reboh in combination with the Official Notice teaches or suggests detecting abnormalities in input data of any type.

Regarding Rejection of Claim 16 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

Reboh et al. ('634) discloses the method of claim 1,
calculating the information content of the input data; and
performing a statistical analysis of the calculated information content
relative to the one or more historical values to determine the likelihood

that changes to the input data are the result of one or more errors.
(Figure 1).

As written, the OA assertion is not a rejection. The OA simply restates the limitation introduced by Claim 6 without providing rationale for a rejection. It is unclear whether the “(Figure 1)” refers to Reboh.

In the event that “(Figure 1)” does refer to Reboh, the OA fails to establish a *prima facie* case of obviousness because neither Reboh Fig. 1, nor anywhere else in Reboh (nor any matter arguably included in the Official Notice), teaches or suggests calculating the information content (entropy) of the input data. Neither Reboh Fig. 1, nor anywhere else in Reboh, teaches or suggests performing statistical analysis on the calculated information content.

The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 16 for the reasons presented regarding Claim 11.

Regarding Rejection of Claim 17 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

“... ‘calculating the information content of the input data is performed by calculating the Shannon entropy of the input data’ is common and well known in prior art in reference to statistical analysis.”

Even if the assertion is true, it is not common and well known to use the Shannon entropy of the input data to detect abnormalities in the input data. No claim is made for the invention of the Shannon entropy. Claim 7 addresses detection of abnormalities in the input data through the use of Shannon entropy. The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 17 for the reasons presented regarding Claim 11 and Claim 16.

Regarding Rejection of Claim 18 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

“... this [statistical analysis performed using non-parametric resampling] is a standard technique that is well known and found in any statistical analysis textbook.”

Regardless of whether the use of statistical analysis performed using non-parametric resampling is a standard technique that is well known and found in any statistical analysis textbook, its use on the entropy (information content) of an input data stream to determine the likelihood that changes to the input data are the result of errors is not known or found in any reference or combination of references. The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities, regardless of the statistical methods (e.g., non-parametric resampling) used to determine if the entropy of the input data comes from the same population as the historical entropy data.

Further, the OA fails to establish a *prima facie* case of obviousness for the reasons presented regarding Claim 11 and Claim 16.

Regarding Rejection of Claim 19 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

“... this [statistical analysis performed using Bayesian statistics] is a standard technique that is well known and found in any statistical analysis textbook.”

Regardless of whether the use of statistical analysis performed using Bayesian statistics is a standard technique that is well known and found in any statistical analysis textbook, its use on the entropy (information content) of an input data stream to determine the likelihood that changes to the input data are the result of errors is not known or found in any reference or combination of references. The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities, regardless of the statistical methods (e.g., non-parametric resampling, Bayesian statistics) used to determine if the entropy of the input data comes from the same population as the historical entropy data.

Further, the OA fails to establish a *prima facie* case of obviousness for the reasons presented regarding Claim 11 and Claim 16.

Regarding Rejection of Claim 20 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts:

“... this [statistical analysis performed using parametric statistics] is a standard technique that is well known and found in any statistical analysis textbook.”

Regardless of whether the use of statistical analysis performed using parametric statistics is a standard technique that is well known and found in any statistical analysis textbook, its use on the entropy (information content) of an input data stream to determine the likelihood that changes to the input data are the result of errors is not known or found in any reference or combination of references. The OA fails to cite references that teach or suggest calculating the information content of input data to detect abnormalities, regardless of the statistical methods (e.g., non-parametric resampling, Bayesian statistics, parametric statistics) used to determine if the entropy of the input data comes from the same population as the historical entropy data.

Further, the OA fails to establish a *prima facie* case of obviousness for the reasons presented regarding Claim 1 and Claim 6.

Regarding Rejection of Claim 21 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

“Reboh et al. ('634) discloses a method for detecting abnormalities in input data to a financial risk management system, the method comprising:

a means for receiving a set of input data to a financial risk management system; (Column 4, lines 18-23)

a means for receiving one or more historical values, each historical value representing a previous set of input data; (Column 4, lines 24-34)”

The OA goes on to assert Official Notice for the remainder of Claim 21. The references to Reboh correspond to the first paragraph of the Description of the Preferred Embodiment in Reboh.

The referenced paragraphs of Reboh, and the Reboh patent generally, describe how new input variables are propagated through embodiments comprising an expert system. Neither Reboh, nor the official notice, makes any provision for detecting abnormalities nor accepting historical values as input. Neither Reboh alone, nor Reboh in combination with the Official Notice teaches or suggests detecting abnormalities in input data of any type.

Regarding Rejection of Claim 23 as unpatentable over Reboh and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

“Reboh et al. ('634) discloses a method for detecting abnormalities in data related to a financial risk management system, the method comprising:

receiving a set of data (Column 4, lines 18-23)

receiving one or more historical values, each historical value representing a previous set of input data; (Column 4, lines 24-34)”

The OA goes on to assert Official Notice for the remainder of Claim 1. The references to Reboh correspond to the first paragraph of the Description of the Preferred Embodiment in Reboh.

The referenced paragraphs of Reboh, and the Reboh patent generally, describe how new input variables are propagated through embodiments comprising an expert system. Neither Reboh, nor the official notice, makes any provision for detecting abnormalities nor accepting historical values as input. Neither Reboh alone, nor Reboh in combination with the Official Notice teaches or suggests detecting abnormalities in input data of any type.

Regarding Rejection of Claim 2 as unpatentable over Reboh in view of USP No. 6,253,019 to Borthwick, USP No. 5,930,762 to Masch, and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

“Masch (‘762) discloses the input data includes data feeds from one or more data processing systems; (Column 2, lines 21-34).”

The referenced section of Masch, and the Masch patent generally, describe a method for decision-making in the face of uncertainty. Neither Masch, nor Reboh, nor Borthwick, nor the official notice, makes any provision for including data feeds from multiple processing systems in an method for detecting abnormalities in input data.

Further, the OA fails to establish a *prima facie* case of obviousness for the reasons presented regarding Claim 1.

Regarding Rejection of Claim 3 as unpatentable over Reboh in view of Borthwick, Masch, and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

“Masch (‘762) discloses the input data includes data calculated by a financial risk management system; (Column 2, lines 21-34).”

The referenced section of Masch, and the Masch patent generally, describe a method for decision-making in the face of uncertainty. Neither Masch, nor Reboh, nor Borthwick, nor the official notice, makes any provision for including data feeds from multiple processing systems in an method for detecting abnormalities in input data.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 3 for the reasons presented regarding Claim 1.

Regarding Rejection of Claim 12 as unpatentable over Reboh in view of USP No. 6,253,019 to Borthwick, USP No. 5,930,762 to Masch, and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

“Masch (‘762) discloses the input data includes data feeds from one or more data processing systems; (Column 2, lines 21-34).”

The referenced section of Masch, and the Masch patent generally, describe a method for decision-making in the face of uncertainty. Neither Masch, nor Reboh, nor Borthwick, nor the official notice, makes any provision for including data feeds from multiple processing systems in an method for detecting abnormalities in input data.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 12 for the reasons presented regarding Claim 11.

Regarding Rejection of Claim 13 as unpatentable over Reboh in view of USP No. 6,253,019 to Borthwick, USP No. 5,930,762 to Masch, and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

“Masch (‘762) discloses the input data includes data calculated by a financial risk management system; (Column 2, lines 21-34).”

The referenced section of Masch, and the Masch patent generally, describe a method for decision-making in the face of uncertainty. Neither Masch, nor Reboh, nor Borthwick, nor the official notice, makes any provision for including data feeds from multiple processing systems in an method for detecting abnormalities in input data.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 13 for the reasons presented regarding Claim 11.

Regarding Rejection of Claim 24 as unpatentable over Reboh in view of USP No. 6,253,019 to Borthwick, USP No. 5,930,762 to Masch, and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

“Masch (‘762) discloses the input data includes data feeds from one or more data processing systems; (Column 2, lines 21-34).”

The referenced section of Masch, and the Masch patent generally, describe a method for decision-making in the face of uncertainty. Neither Masch, nor Reboh, nor Borthwick, nor the official notice, makes any provision for including data feeds from multiple processing systems in an method for detecting abnormalities in input data.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 24 for the reasons presented regarding Claim 21.

Regarding Rejection of Claim 25 as unpatentable over Reboh in view of USP No. 6,253,019 to Borthwick, USP No. 5,930,762 to Masch, and Official Notice.

The OA fails to establish a *prima facie* case of obviousness because the reference does not disclose the asserted steps.

The OA asserts that:

“Masch ('762) discloses the input data includes data calculated by a financial risk management system; (Column 2, lines 21-34).”

The referenced section of Masch, and the Masch patent generally, describe a method for decision-making in the face of uncertainty. Neither Masch, nor Reboh, nor Borthwick, nor the official notice, makes any provision for including data feeds from multiple processing systems in an method for detecting abnormalities in input data.

Further, the OA fails to establish a *prima facie* case of obviousness with respect to Claim 25 for the reasons presented regarding Claim 21.

Regarding the New Claim

Claim 28 has been added incorporating features not found in the references.

Conclusion

In light of the above remarks and with the above amendments, this application is in condition for allowance, and such disposition is earnestly solicited. If the examiner believes that the prosecution might be advanced by discussing the application with the undersigned, in person or over the telephone, we would welcome the opportunity to do so.

Respectfully submitted,

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